OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA)

DIVISION OF EMERGENCY & REMEDIAL RESPONSE (DERR)

EXPANDED SITE INVESTIGATION WORKPLAN APPROVAL FORM

Bucyrus City Dump

Prepared by: Diane L. Crosby — 6/26/06
Diane L. Crosby, Environmental Specialist — Date
Ohio EPA, DERR-SIFU

Reviewed by: Steven C. Snyder — 6-13-06
Steve Snyder, Site Coordinator — Date
Ohio EPA, DERR-NWDO

Reviewed by: Jeff Wander — 6/26/06
Jeff Wander, Environmental Specialist III — Date
Ohio EPA, Central Office, DERR-SIFU

Approved by: Laura J. Ripley — 07/05/2006
Laura Ripley, Early Action Project Manager, — Date
U.S. EPA, Region 5

Upon review and approval of this ESI Work Plan, please sign and fax this sheet to:
(614) 836-8795, Attention: Diane Crosby

OHIO ENVIRONMENTAL PROTECTION AGENCY (OHIO EPA)

DIVISION OF EMERGENCY & REMEDIAL RESPONSE (DERR)

EXPANDED SITE INVESTIGATION (ESI) WORK PLAN APPROVAL FORM

BUCYRUS CITY DUMP

County: Crawford
DERR ID: 317-2145
U.S. EPA ID: OHN000509113

Prepared by: _____ _____
Diane L. Crosby, Environmental Specialist, Ohio EPA, DERR-SIFU — Date

Reviewed by: _____ _____
Steve Snyder, Site Coordinator, Ohio EPA, DERR-NWDO — Date

Approved by: _____ _____
Laura Ripley, Early Action Project Manager, U.S. EPA, Region 5 — Date

Upon review and approval of this Work Plan, please sign and fax this sheet to:
(614) 836-8736 Attention: Diane L. Crosby

OHIO EPA DIVISION OF EMERGENCY AND REMEDIAL RESPONSE
EXPANDED SITE INVESTIGATION (ESI) WORK PLAN
BUCYRUS CITY DUMP

STATEMENT OF PURPOSE

The purpose of this Expanded Site Investigation (ESI) is to determine if hazardous substances from previous waste disposal activities at the Bucyrus City Dump (site) are migrating off-site, and if so, whether these substances pose a potential threat to human health and the environment. Data will also be collected to further characterize the waste on-site by sampling waste materials in drums and leachate located along the banks of the Sandusky River. Data collected will be used to demonstrate whether or not the site is of National Priority List (NPL) caliber by documenting observed releases, observed contamination and potential targets.

SECTION I - General Information and Personnel

Site Name: Bucyrus City Dump	**Date(s) of Investigations:** July 11, 2006
DERR I.D. No.: 317-2145	**U.S. EPA I.D. No.:** OHN000509113
District: Northwest	**County:** Crawford
Site Address/Location: 1500 W. Southern Ave., Bucyrus, Ohio	
Directions to Site: From the Ohio EPA Field Facility, turn left onto Homer-Ohio Lane and then turns right onto Hamilton Road. Merge onto US-33, via the ramp-on the left-toward I-270. Merge onto I-270 North toward Wheeling. Merge onto US-23 North toward Delaware. Take the OH-4 ramp toward Bucyrus. Turn right onto Marion Bucyrus RD/OH-4. Continue to follow OH-4. Turn left at the light onto Krauter Road. Turn right at the light onto Wyandot RD/CR-12. Turn right at the light onto W. Southern Ave. Turn left into the City of Bucyrus Waste Water Treatment Plant (WWTP). The Site is next to the WWTP along the Sandusky River.	
Latitude: 40° 48' 00.0" N	**Longitude:** 82° 59' 38.0" W
USGS 7.5 Minute Series Quadrangle: Bucyrus, Ohio	
Access Permitted By: Terry L. Spiegel Superintendent-Waste Water Treatment Plant	**Phone:** (419) 562-8981
Site Representative: Steven C. Snyder	**Phone:** (419) 373-3040
OUPS Utility Clearance Number: 800-362-2764	**Date:** OUPS will be contacted 48 hours before investigation.
List of Map(s) Attached: Figure 1: Site Location Map; Figure 1a: Site Location Map with Industries; Figure 2: Site Features Map; Figure 3: Proposed Sample Locations Map	

SECTION I - General Information and Personnel

Team Members and Responsibilities:

Steven C. Snyder	**, Project Manager**
Diane L. Crosby	**, Sampling Team Leader**
Diane L. Crosby	**, Site Health and Safety Officer**
Karl Reinbold	**, Sampling Team Member; Alternate Health and Safety Officer**
Gavin Armstrong	**, Sampling Team Member**
	, Sampling Team Member
	, Sampling Team Member
	, Sampling Team Member

Prepared by: Diane L. Crosby	**Date:** June 19, 2006

SECTION II - Sample Summary

	Field Samples #	Duplicates #	Background #	Trip Blanks #	Total #
Soil Samples	8	1	2		11
Sediment Samples	4	1	2		7
Surface Water/Leachate Samples	4	1	2	1	8
Ground Water Samples					
Air Samples					
Other: Waste	2				2

SECTION III - Site Description

The Bucyrus City Dump is located in Crawford County, Bucyrus Township at 1500 W. Southern Avenue within the corporation limits of the City of Bucyrus. The fill area is adjacent to both the south side of the Sandusky River and the east side of the Bucyrus WWTP (Figure 2). The segment of the Sandusky River which borders the site flows east to west. The topography of the site is relatively flat containing mostly open areas of grass, with the exception of a small patch of woods at the southwest corner of the fill area. The northern boundary along the river bank is also wooded. The City of Bucyrus is currently operating a compost facility on the north-central portion of the site (Figure 2). The City of Bucyrus currently owns the property and have owned it since prior to 1968.

The site is about 20 acres and fill material may extend to depths of 12 to15 feet. These depths are based on historical information and on six GeoProbe™ test borings from the June 2, 2004 sampling event. The north slope of the dump extends along the river approximately 1,000 lineal feet and is relatively void of soil cover material. Approximately 600 feet of the river along the north slope of the site is being affected by erosion and washout. Within this 600 foot segment, waste materials and leachate have been observed entering into the river. A drainage ditch extends approximately 1,000 feet along the eastern limits of the dump. Several areas along the eastern drainage ditch contained exposed waste materials from rodents, erosion and washout. A large diameter combined sewer overflow/storm water pipe transects the dump from the south to north and discharges into the river downstream of the site. This sewer has a manhole access located near the center of the fill area and just north of the access road that transects the site from east to west. There is another sewer outfall upstream of the active outfall that appears to be abandoned. A steady stream of water comes from this outfall and appears to be drainage/leachate from the dump.

The nearest house to the limits of waste is approximately 650 ft south and west of the site and residential development is ongoing in the area. Because there is no fence to restrict access, local residents including children are easily able to enter the site. In fact, the City's recent construction of a foot bridge over the river and walking path along the eastern perimeter of the fill area that leads to the community park. Encourages use of the site by local citizens.

The ditch that runs along the eastern border of the site is proposed to be re-routed further to the east during the Summer of 2006 as part of sewerage improvements within the City. Upon completion, the existing ditch will be backfilled with clay material to isolate the eastern portion of the dump from surface water bodies and to eliminate direct contact threats.

Little information is available regarding the site. The City of Bucyrus was not able to furnish any historical records regarding disposal operations, such as the depth of fill and/or the types of waste materials. According to Ohio EPA files, the site ceased accepting waste in 1969 when the Crawford County Landfill opened for business. Commercial, industrial, and residential waste materials were likely dumped adjacent to and within the flood plain of the river. Historical aerial photographs from the early 1960s show evidence of burning and trash piles east of the WWTP. Industrial wastes (rubber, drums, dried paint sludge) were observed along the east and north slopes of the dump and in the small wooded area in the southwest corner of the fill area. According to local residents, these wastes were likely generated from the GE Light Bulb Plant, Timken, Anchor Swan Company, and foundry operations. These companies were in business when the dump was in operation and are still in business today with the exception of foundry operations (see Figure 1a for locations relative to the dump).

SECTION IV - Site History

See Site Description

SECTION V - Previous Site Work

A Preliminary Assessment/Site Investigation was conducted at the site June 2, 2004 (soil and ground water samples collected) and June 22, 2004 (sediment and surface water samples collected). Exposure pathways of concern are surface water and direct contact with soil.

SECTION VI - Site Geology and Hydrogeology

The oldest rocks exposed in Crawford County are Devonian in age (about 345 to 395 million years ago). During this period, saltwater seas covered most of Ohio. Thick deposits of carbonate material accumulated in these seas setting the stage for the formation of the Columbus and Delaware limestone that outcrop in western Crawford County. In the late Devonian, the depositional environment changed as the seas deepened and became more Stagnant. Carbon-rich sediments increased as the lime decreased. These thick deposits of sediments consolidated into the massive Olentangy and Ohio shale.

At the beginning of the Mississippian period, gray shale was still accumulating. However, as the land to the east of the county was uplifting, gray mud formed the Bedford shale and the sandy sediment, also referred to as the Berea sandstone. Following the deposition of the Berea sandstone, the inland seas again encroached, depositing mud which makes up the Sunbury shale. Another series of uplifts in the east is responsible for the increased deposition of sands making up the Cuyahoga formation which consists of alternating beds of sandstone and siltstone. Crawford County lies on the east flank of the Cincinnati Arch; therefore, the rocks strike north-south and dip eastward or slightly southeast.

The regional inclination or dip is 31 feet per mile. The Devonian age rocks outcrop in the western part of the county and the younger Mississippian formations are exposed along the eastern part of the county. A cross-section was constructed using boring information from the Ohio Geological Survey bulletins and the ODNR Water Division maps. The surficial sediments are a result of several glaciations where glaciers advance, scouring the bedrock and depositing the drift material as end moraines when advancement ceased. When the glacier advanced slowly, drifts forming the Wisconsin Ground moraine were evenly deposited.

The depth to bedrock in the Bucyrus area is between 35 and 70 feet below land surface (ftbls). The bedrock in this area is the basal portions of the Ohio shale. The Ohio shale of the Ohio Formation is late Devonian in age. The Ohio Formation consists of three members: Huron, Chagrin and Cleveland. The Huron and Cleveland units are typically black or brownish black fissile shale with a high content of carbonaceous matter and/or pyrite either in fine crystals, modules or flakes. The Chagrin, or middle unit, is gray siliceous shale and differs in the Huron and Cleveland because it lacks organic and pyretic matter.

The Ohio Formation is commonly quite massive and the thickness varies from less than 400 feet to 3,400 feet. The Bucyrus area is located very close to the contact between the basal portion of the Ohio Formation and the top of the Delaware Formation which consists of generally evenly bedded fossil ferrous limestone with the shale partings (inter-bedded shale). The Delaware limestone and Ohio shale contact dips generally to the east and is approximately 165 ft-bls in the Bucyrus area. The Ohio shale is believed to act as an aquitard. It has a very low hydraulic conductivity and is thought to yield little or no groundwater (ODNR).

The surficial sediments are a result of several glaciations where glaciers advanced and retreated, scouring the bedrock and depositing geologic materials in a range of particle sizes as end moraines when advancement ceased. The term end moraine refers to a linear zone of slightly higher topography, which in Ohio is oriented in a series of east-west trending belts, representing places where the glaciers paused or retreated. Because end moraine was deposited at the margin of a melting ice sheet, the sedimentary materials ranging in size from clay, silt, sand, gravel, cobbles, and even large boulders were sorted to some degree by the action of flowing surface water. Sorted sand and gravel deposits are often found in end moraines, enclosed within a more clay rich matrix. Ground moraine, in contrast, consists of unsorted geologic materials transported by the ice.

SECTION VI - Site Geology and Hydrogeology

The use of shallow groundwater in Crawford County for domestic purposes is limited based on either poor pumping rates due to low hydraulic conductivities in the sediments or undesirable amounts of hydrogen sulfide in the bedrock. To the west of Bucyrus, at depths of less than 300 feet, test wells have been developed that produce between 100 and 500 gallons of water per minute. Farm and domestic wells have been developed producing 10 to 15 gallons per minute at depths less than 95 ft-bls. In the Bucyrus area, like much of central Crawford County, groundwater use is restricted to the shallow glacial till sediments which generally produce less than three gallons per minute (ODNR Water Division map).
There are approximately 8 residential wells less than ½ mile from the site (ODNR Well Logs).

Dry wells are not uncommon and home owners rely upon additional storage and/or cisterns to maintain daily requirements of water. Although shallow wells less than 40 ft-bls often yield fresh and hydrogen sulfide-free water, deeper drilling will yield sulfurous water. The Bucyrus area relies on surface water for most commercial and domestic uses. The surface water intake is located upstream of the site on the Sandusky River.

By 1904, water was taken directly from the Sandusky River and forced through mechanical filters into the water mains. Dams were built to impound water for summer use. By 1941, other reservoirs had been built in the area and water was treated with alum for coagulation and chlorine for disinfection. In 1983, a public water supply was established.

The Bucyrus area is known to have a seasonally high perched water table which at times is less than 1 ft-bls. This high water table and the relatively low hydraulic conductivity of the soils and sediments cause surface ponding of rainwater after storms. Shallow groundwater south of Bucyrus is believed to flow from east to west toward the Little Scioto River.

SECTION VII - Sampling Strategy

A total of 18 samples in four matrices will be collected in and around the site. Refer to Figure 3 for proposed sample locations. This number does not include quality assurance/quality control samples. The samples will be sent to Contract Laboratory Program (CLP) labs for regular analytical services (RAS) full organic and inorganic analysis.

Soil: Up to 8 soil samples (plus 2 background and 1 duplicate) will be collected from areas where there is stressed vegetation, stained soil and visible leachate seeps. Subsurface soil samples will be collected, with Ohio EPA's Geoprobe, greater than two feet below ground surface (bgs). Surface samples will be collected from 0-2 feet bgs using augers, spoons and shovels.

Sediment: Up to 4 sediment samples (plus 2 background and 1 duplicate) will be collected from areas in the vicinity of leachate outbreaks that are draining to surface water.

Surface Water/Leachate: Up to 4 leachate samples (plus 2 background and 1 duplicate) will be collected. The leachate samples will be collected in visible leachate seeps located in the ditch and the southern bank of the Sandusky River which borders the site (Figure 3).

SECTION VII - Sampling Strategy

Ground Water: N/A

Ecological Assessment: N/A

Air monitoring: N/A

Waste: Up to 2 samples will be taken from materials contained in rusted and partially buried drums located in the northwest corner of the site.

Procedures:
Personal protective procedures, sample collection, sample screening and field decontamination will all be performed according to Ohio EPA-DERR's *Field Standard Operating Procedures*, Volume IV and July, 2004. The Quality Assurance Project Plan (QAPP) for Superfund Site Investigation Activities conducted by the Ohio Environmental Protection Agency (September 21, 1998) will also be adhered to.

SECTION VIII - Investigation-Derived Waste Plan

If, in the best professional judgment of the site coordinator, investigation-derived wastes are non-hazardous, the wastes will be double-bagged and deposited in an industrial dumpster on site or transported back to the Ohio EPA Field Facility in Columbus, Ohio for disposal as directed in the U.S. EPA Guide to Management of Investigation-Derived Wastes, Publication: 9345.3-03FS, January 1992.

Investigation-derived wastes will generally consist of disposable vinyl and nitrile gloves, latex boot covers, and detergent water. These items are used primarily for prevention of cross-contamination and for sanitary considerations during sampling activities.

Should contact with concentrated wastes occur, disposable gear and waste water will be secured in a steel drum, on site if possible, until sample analysis results are received. If analytical data reveals significant contamination, as determined by the site coordinator, these wastes will be disposed of properly by a contracted, licensed hauling and disposal facility.

TABLE 1. SUMMARY TABLE OF SAMPLING AND ANALYSIS PROGRAM

Sample Matrix	Field Parameters	Laboratory Parameters	# Samples	Field Duplicate	Trip Blank	MS/MSD[2, 3]	Matrix Total
Leachate/Surface Water		CLP TCL VOC- OLM	4	1	1	1	6
		CLP TCL SVOC-OLM	4	1		1	5
		CLP TCL pest/PCB-OLM	4	1		1	5
		CLP TAL metals -ILM (unfiltered)	4	1		1	5
		CLP TAL cyanide-ILM	4	1		1	5
Waste		CLP TCL VOC- OLM	2				2
		CLP TCL SVOC-OLM	2				2
		CLP TCL pest/PCB-OLM	2				2
		CLP TAL metals -ILM (unfiltered)	2				2
		CLP TAL cyanide-ILM	2				2
Sediment		CLP TCL VOC-OLM	4	1		1	5
		CLP TCL SVOC-OLM	4	1		1	5
		CLP TCL pest/PCBs-OLM	4	1		1	5
		CLP TAL metals-ILM	4	1		1	5
		CLP TAL cyanide-ILM	4	1		1	5
Soil		CLP TCL VOC-OLM	8	1		1	9
		CLP TCL SVOC-OLM	8	1		1	9
		CLP TCL pest/PCBs-OLM	8	1		1	9
		CLP TAL metals-ILM	8	1		1	9
		CLP TAL cyanide-ILM	8	1		1	9

1. The field quality control samples also include trip blank, which is required for VOA water samples. One trip blank, which consists of two 40-ml glass vials (preserved) for water samples is shipped in each cooler of VOA samples.

2. Additional sample volume for the matrix spike/matrix spike duplicate (MS/MSD) is required for organic analysis, except for the OLC SOW. Samples designated for MS/MSD analysis will be collected, with extra sample volumes, at a frequency of one per group of 20 or fewer investigative samples Triple the normal sample volumes will be collected for VOAs, and double the normal sample volumes will be collected for SVOCs and pesticides and PCBs.

3. For inorganic analysis, no extra sample volume is required for the spike and duplicate analyses, however, samples for the spike and duplicate analysis should be identified on the field COC at a rate of one per group of 20 or fewer investigative samples.

**IDENTIFY HERE IF SAMPLES ARE COLLECTED USING ANY OF THE 5035 METHODS, i.e., IN METHANOL, OR IN ENCORE TUBES
4. The number of samples to be collected for MS/MSD are not included in the matrix total. The number of trip blank samples is also excluded from the matrix total.

OHIO EPA DIVISION OF EMERGENCY AND REMEDIAL RESPONSE
SITE HEALTH AND SAFETY PLAN

SECTION I - General Information and Personnel

Site Name: Bucyrus City Dump	**Date(s) of Investigation:** July 11, 2006
Site Location: 1500 West Southern Avenue, Bucyrus, OH 44820 (Crawford County)	
Site Representative: Terry L. Spiegel Superintendent-Waste Water Treatment Plant	**Phone:** (419) 562-8981
District Office Contact: Steve Snyder	**Phone:** (419) 373-3040
U.S.EPA I.D. No.: OHN000509113	**OEPA I.D. No.:** 317-2145
Prepared By: Diane Crosby/Steve Snyder	**Date:** 06/19/06

Team Members and Responsibilities:

Steve Snyder, Project Manager; Site Health and Safety Officer

Jeff Wander, Lead Worker

Diane Crosby, Sampling Team Member; Alternate Health and Safety Officer

Karl Reinbold, Sampling Team Member

Gavin Armstrong, Sampling Team Member

SECTION II - Safety and Health Risk Analysis

Level of Protection:
Visual contamination and direct reading instruments shall be used to gauge necessary protection levels as stated in Section VII, Air Monitoring.

Media of Possible Exposure:
(X) Air (X) Soil (X) Ground Water (X) Surface Water (X) Sediment

Overall Site Risk/Hazard: ( ) High (X) Medium ( ) Low ( ) Unknown

Waste Types: ( ) Liquid (X) Solid (X) Sludge (X) Gas ( ) Unknown

Waste Characteristics:
( ) Corrosive ( ) Flammable ( ) Radioactive
( ) Toxic ( ) Volatile (X) Unknown
( ) Inert ( ) Reactive ( ) Other (specify)

Hazards of Concern:

(X) Explosive/Flammable (X) Noise ( ) Biological (X) Heat Stress
(X) Inorganic Chemicals ( ) Cold Stress ( ) Oxygen Deficient
(X) Organic Chemicals ( ) Radiological ( ) Other (Specify)

SECTION II - Safety and Health Risk Analysis (cont)

List of Potential Physical Hazards

Task	Hazard	Description/Location	Procedure used to Monitor/Hazard
Driving to and from the site	**Vehicle or Traffic Accident**	Driving to and from the site.	Defensive Driving; switch drivers often.
Sampling, Accessing Sampling Locations.	**Adverse Weather Conditions** (e.g., cold-hyperthermia; rain; wind; lightning; etc).	Soil, surface water, sediment, and ground water sampling locations.	Drink plenty of fluids; dress appropriate -- cold, warm; rain; stop working when lightning.
Sampling, Accessing Sampling Locations.	**Moving Objects** (e.g., vehicles; property owner's treatment works; Geoprobe).	Soil, surface water, sediment, and ground water sampling locations.	Be cautious and observe appropriate safety practices; notify property owner of our work areas.
Sampling, Accessing Sampling Locations	**Tripping, Falling** (e.g., unstable ground steep bank along river; dense vegetation; sharp objects -- puncture wounds).	Soil, surface water, sediment, and ground water sampling locations.	Be cautious and observe appropriate safety practices; steel toed boots, safety glasses.
Sampling, Accessing Sampling Locations	**Drowning** (e.g., unstable banks, steep stream banks; sharp drop-offs from bank into water; high water or flood waters; treatment basins)	Surface water and sediment sampling locations.	Life jackets will be worn when working on or around deeper areas of stream. Stay out of fenced areas of treatment basins.

SECTION II - Safety and Health Risk Analysis (cont)

Chemicals Present at Site	Highest Observed Concentration (specify units and media)	Exposure Limits PEL/TLV ppm or mg/m^3 (specify)	IDLH ppm or mg/m^3 (specify)	Symptoms/Effects of Acute Exposure	Instruments Used to Monitor Contaminant
Arsenic	NA	TWA = 0.010 mg/m^3	CA; 5 mg/m^3	Ulceration of nasal septum, dermatitis, gastrointestinal disturbances, peripheral neuropathy, respiratory irritation, hyperpigmentation of skin	NA
Cadmium	NA	TWA = 0.005 mg/m^3	CA; 9 mg/m^3	Pulmonary edema, dyspnea (breathing difficulty), cough, chest tightness, substernal (occurring beneath the sternum) pain; headache; chills, muscle aches; nausea, vomiting, diarrhea; anosmia (loss of the sense of smell), emphysema, proteinuria, mild anemia;	NA
Chromium	NA	TWA = 0.5 mg/m^3	25 mg/m^3	Histologic fibrosis of lungs, eye & skin irritation	NA
Lead	NA	TWA = 0.050 mg/m^3	100 mg/m^3	Lassitude (weakness, exhaustion), insomnia; facial pallor; anorexia, weight loss, malnutrition; constipation, abdominal pain, colic; anemia; gingival lead line; tremor; paralysis wrist, ankles; encephalopathy; kidney disease; irritation eyes; hypotension	NA
Dichloroethylene	NA	TWA = 200 ppm	1000 ppm	Irritation of eyes, respiratory system; CNS depression	PID; IP = 9.65 eV

SECTION II - Safety and Health Risk Analysis (cont)

Chemicals Present at Site	Highest Observed Concentration (specify units and media)	Exposure Limits PEL/TLV ppm or mg/m^3 (specify)	IDLH ppm or mg/m^3 (specify)	Symptoms/Effects of Acute Exposure	Instruments Used to Monitor Contaminant
Mercury Vapor	NA	TWA = 0.01 mg/m^3	2 mg/m^3	Paresthesia; ataxia, dysarthria; vision, hearing disturbance; spasticity, jerking limbs; dizziness; salivation; lacrimation (discharge of tears); nausea, vomiting, diarrhea, constipation; skin burns; emotional disturbance; kidney injury; possible teratogenic effects	Mercury Vapor Analyzer and X-ray Fluorescence
PCB-Araclor 1254	NA	TWA = 0.5 mg/m^3	CA: 5 mg/m^3	Irritation eyes, chloracne; liver damage; reproductive effect	NA
Tetrachloroethylene	NA	TWA = 100 ppm	CA; 150 ppm	Irritation eyes, skin, nose, throat, respiratory system; nausea; flush face, neck; dizziness, incoordination; headache, drowsiness; skin erythema (skin redness); liver damage; [potential occupational carcinogen]	PID; IP = 9.32 eV
Trichloroethylene	NA	TWA = 100 ppm	CA; 1000 ppm	Irritation eyes, skin; headache, visual disturbance, lassitude (weakness, exhaustion), dizziness, tremor, drowsiness, nausea, vomiting; dermatitis; cardiac arrhythmias, paresthesia; liver injury; [potential occupational carcinogen]	PID; IP = 9.45 eV

SECTION II - Safety and Health Risk Analysis (cont)

Chemicals Present at Site	Highest Observed Concentration (specify units and media)	Exposure Limits PEL/TLV ppm or mg/m^3 (specify)	IDLH ppm or mg/m^3 (specify)	Symptoms/Effects of Acute Exposure	Instruments Used to Monitor Contaminant
Vinyl Chloride	NA	TWA = 1 ppm	CA	Lassitude (weakness, exhaustion); abdominal pain, gastrointestinal bleeding; enlarged liver; pallor or cyanosis of extremities	PID; IP = 9.99 eV
Xylenes	NA	100ppm	900ppm	Irritation eyes, skin, nose, throat; dizziness, excitement, drowsiness, incoordination, staggering gait; corneal vacuolization; anorexia, nausea, vomiting, abdominal pain; dermatitis	PID

PEL = Permissible exposure limit IDLH = Immediately dangerous to life or health

SECTION III - Site Control

Work Zones:
This site investigation does not require the establishment of work zones. A site map can be found in the attached workplan.

Communications:
Cellular phones are located in each vehicle. On large sites, two way radios will be provided for staff out of voice range.

Safe Work Practices:
Eating, drinking, gum chewing and smoking will not be permitted on site.

The "buddy system" will be used during all field work activities. This is defined as two trained people working as a team and maintaining contact.

Avoid contact with contaminated, or potentially contaminated surfaces. Walk around discolored areas, do not kneel or place equipment down on potentially contaminated ground.

Location of First Aid Kit:
Kits are located in each Ohio EPA field vehicle.

SECTION IV - Employee Training

All Ohio EPA field staff working on-site have meet the appropriate health and safety training requirements as stated in 29 CFR 1910.120(e). This includes initial health and safety training, annual refresher training, and three day on the job training. Included in this training is the recognition of the symptoms and signs of overexposure to chemical hazards. All of Ohio EPA field staff have been trained to render first aid and CPR; and field supervisors have had the appropriate supervisory training. Health and safety training documentation is on file with the Ohio EPA Health and Safety Coordinator.

SECTION V - Medical Surveillance

All Ohio EPA field staff are enrolled in a comprehensive medical monitoring program. This program includes initial and annual medical examinations, examinations upon termination of employment, and medical record keeping.

SECTION VI - Personal Protective Equipment

Ohio EPA has a comprehensive, written PPE program in place. Please refer to *Personal Protective Equipment, OEPA-SM-06-004* for specific details.

The majority of site work will be conducted in Level D. Decisions to upgrade to a higher level or to evacuate/leave the site will be based on visual contamination and direct reading instruments as stated in Section VII, Air Monitoring.

SECTION VII - Air Monitoring

Air monitoring will be conducted during initial site entry and sampling activities. All air monitoring equipment are on a maintenance and calibration schedule as recommended by the manufacturer.

Instrument	Hazard	Action Levels	Action Guidelines
CGI (Combustible gas indicator)	Explosive	<10% LEL 10 -25% LEL >25%	No explosion hazard; continue monitoring Potential explosion hazard; continue monitoring with caution Explosion hazard; evacuate
O_2 meter	O2 deficient atmosphere/02 displaced by toxic vapors	>23.5% O_2 20.8% O_2 20.8 - 19.5% O_2 <19.5% O_2	Evacuate area Oxygen normal Proceed with caution Oxygen deficient; don SCBA
Radiation survey meter	Gamma Radiation	3 - 5 times gamma background <1 mR/hr >1 mR/hr	Consult a Health Physicist Continue instrument monitoring Evacuate
MicroTip (Photoionization detector) [11.7 ev 10.6 ev 9.8 ev] Type: PID/FID	Organic Vapors Gases	1-10 ppm above background in breathing zone >10 ppm above background in breathing zone	Level C Level B

SECTION VIII - Confined Space Entry Procedures

Areas defined as a confined space under 29 CFR 1910.120(j)(9) will **not** be entered. If it is deemed necessary to enter a confined space, Ohio EPA staff with the appropriate confined space training and equipment will be tasked under a separate investigation.

SECTION IX - Spill Containment Program

There is little to no potential for a spill or release of a hazardous substance on this site. However, if one should occur, the Ohio EPA spill hotline will be called to notify appropriate staff and to obtain guidance on the situation.
Ohio EPA Spill Hotline: 1-800-282-9378

SECTION X - Decontamination Program

Personnel Decontamination Procedures:
All Ohio EPA field staff working on-site shall, at a minimum, wear protective clothing (Tyvek or Saranex, boot covers and gloves). These disposable items will be used during all sampling events and disposed of at the end of the day per the Investigation-Derived Waste Plan in the work plan.

Equipment Decontamination Procedures:
All sampling equipment shall be washed in non-phosphate soap and water rinsed with tap water, rinsed with ASTM-type water, followed by a methanol rinse and final hexane rinse, if needed, per *OEPA-DERR Field Standard Operating Procedure 10.01.*

The site health and safety officer may monitor decontamination procedures.

SECTION XI - Emergency Response Plan

In the event of an emergency, the Ohio EPA field team leader will take appropriate action. If evacuation from the site is required, three horn blasts or radio communications will signal evacuation. Ohio EPA field staff will then procede to their vehicles.

In the event of an medical emergency, the following emergency information is provided.

SECTION XI - Emergency Response Plan (Continued)	
Emergency Information	**Hospital Information**
Is 911 available: YES	**Nearest Hospital:** Bucyrus Community Hospital
Police Department: 419-562-1006	**Hospital Address:** 629 North Sandusky Avenue Bucyrus, OH 44820
Fire Department: 419-562-1234	
Poison Control Center: 1-800-682-7625	
Ohio EPA Spill Hotline: 1-800-282-9378	**Hospital Phone:** (419) 562-4677

***Map to hospital and directions are attached**

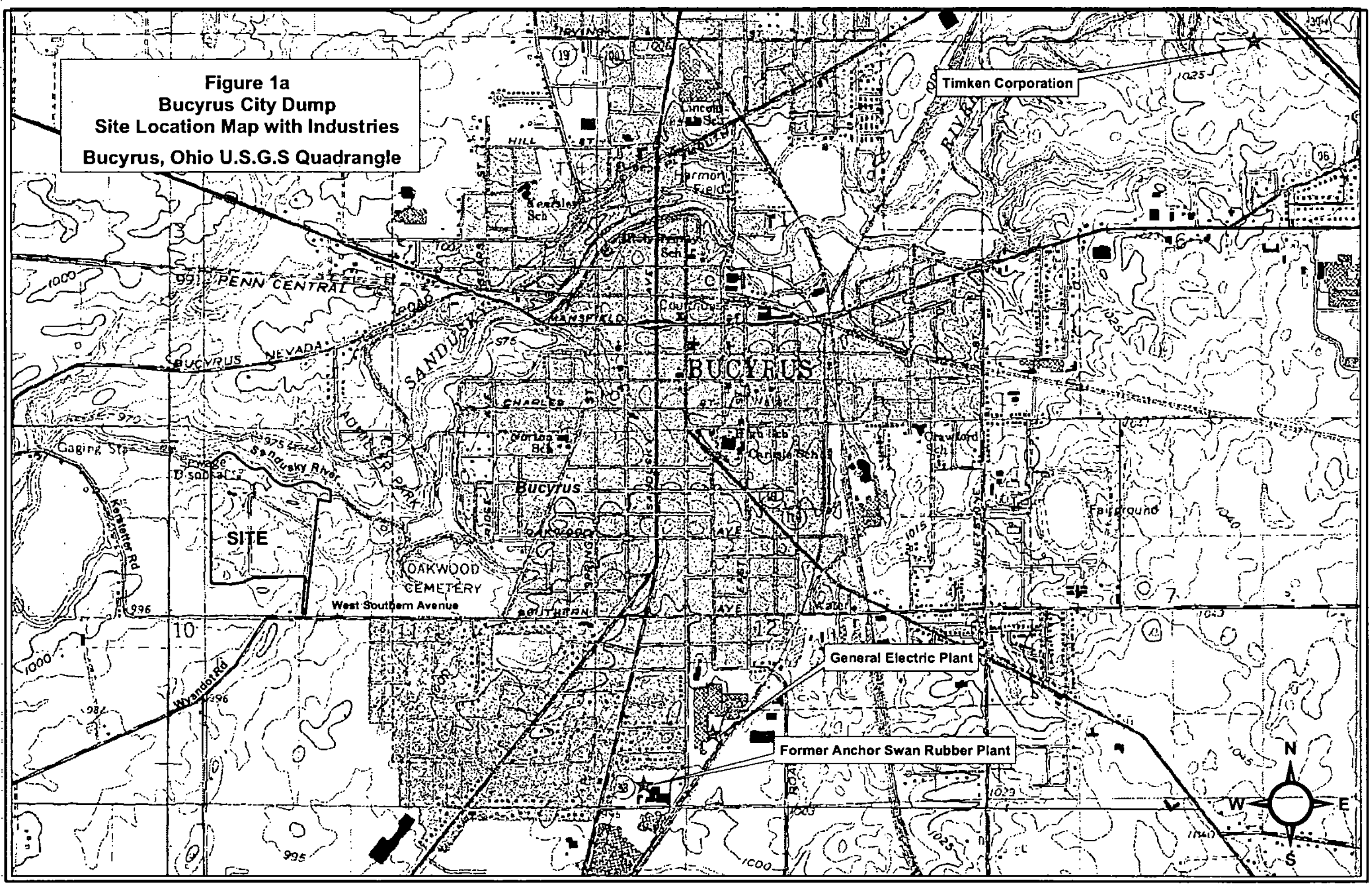
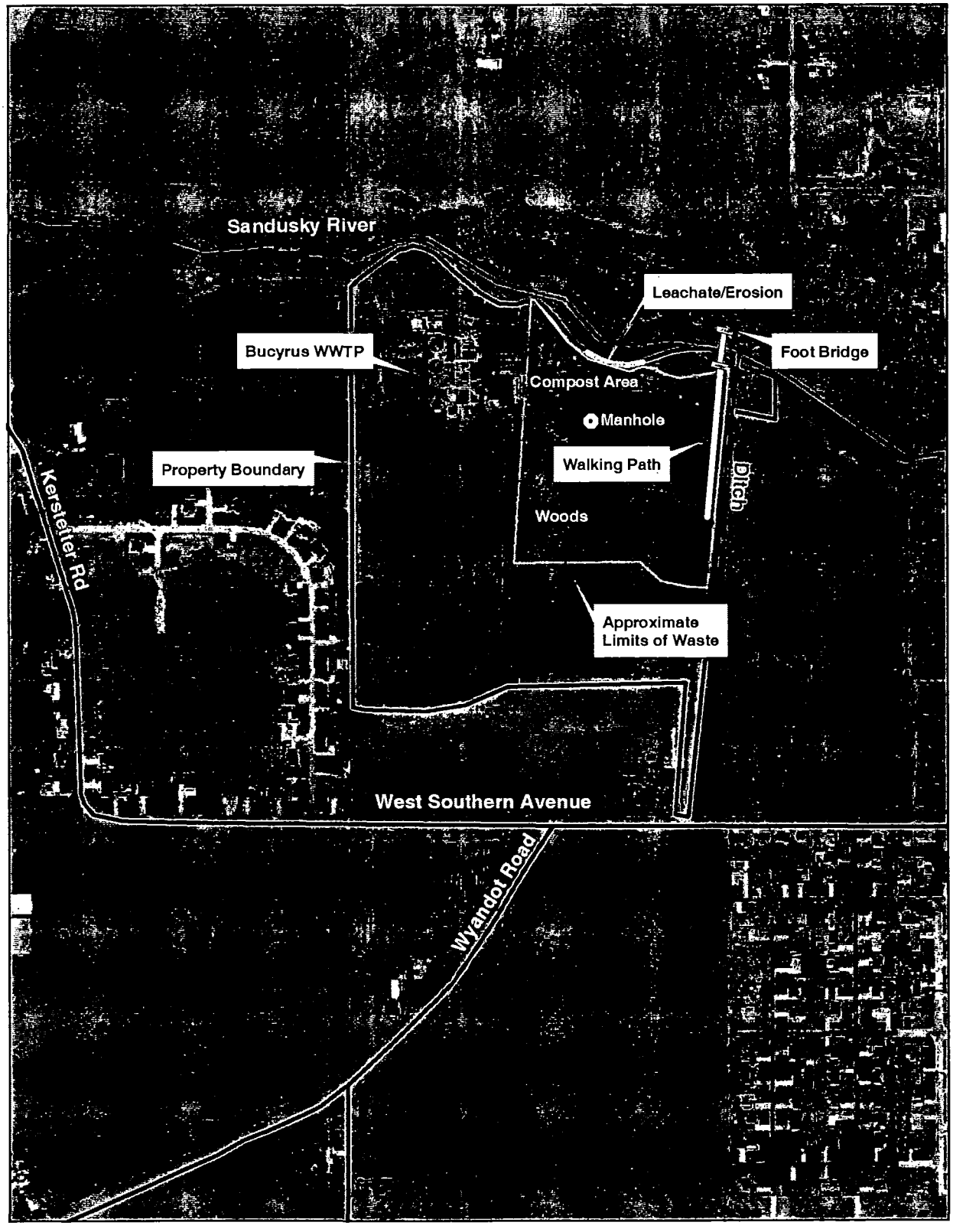


Figure 1a
Bucyrus City Dump
Site Location Map with Industries
Bucyrus, Ohio U.S.G.S Quadrangle
Timken Corporation
General Electric Plant
Former Anchor Swan Rubber Plant
SITE
West Southern Avenue
BUCYRUS
PENN CENTRAL
OAKWOOD CEMETERY
N
S
E
W

Figure 2
Site Features Map
Bucyrus City Dump



Flow

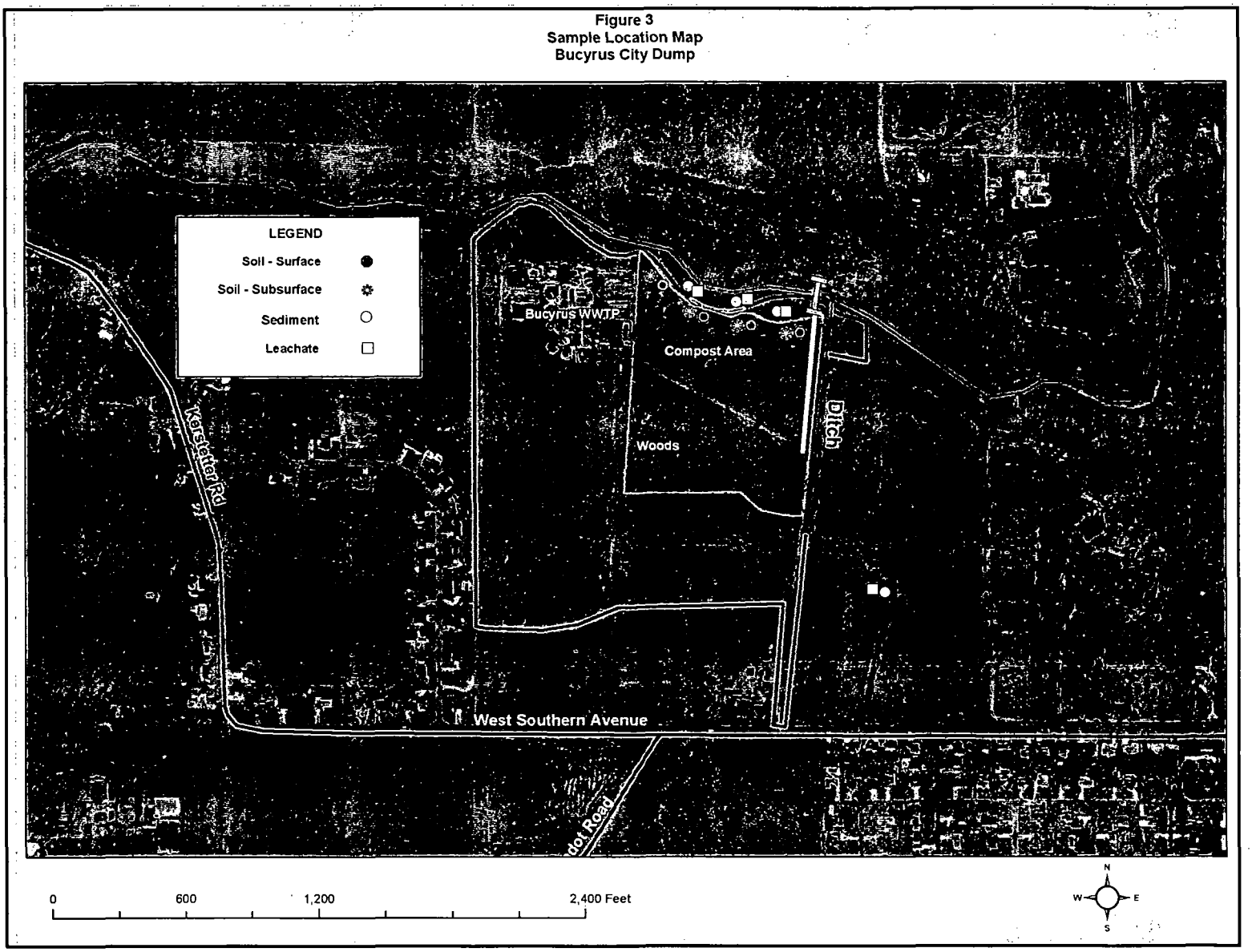


Figure 3
Sample Location Map
Bucyrus City Dump
LEGEND
Soil - Surface
Soil - Subsurface
Sediment
Leachate
Bucyrus WWTP
Compost Area
Woods
Ditch
Kerstetter Rd
West Southern Avenue
dot Road
0
600
1,200
2,400 Feet
N
W
E
S

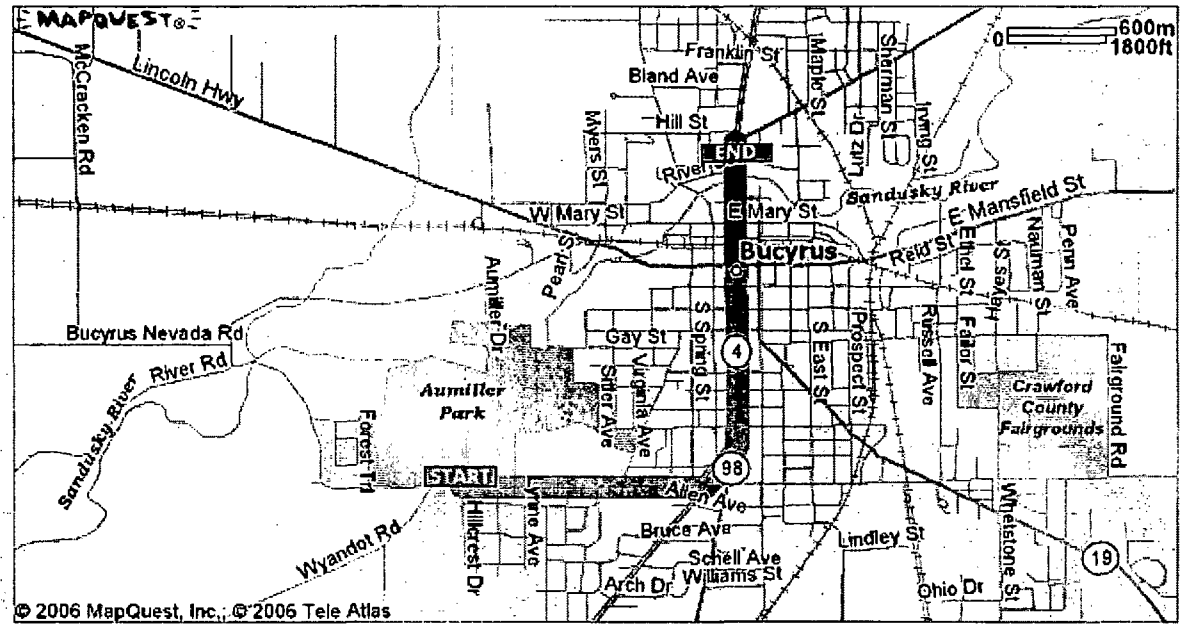
MAPQUEST

Start: **1500 W Southern Ave**
Bucyrus, OH 44820-3065, US

End: **629 N Sandusky Ave**
Bucyrus, OH 44820-1821, US

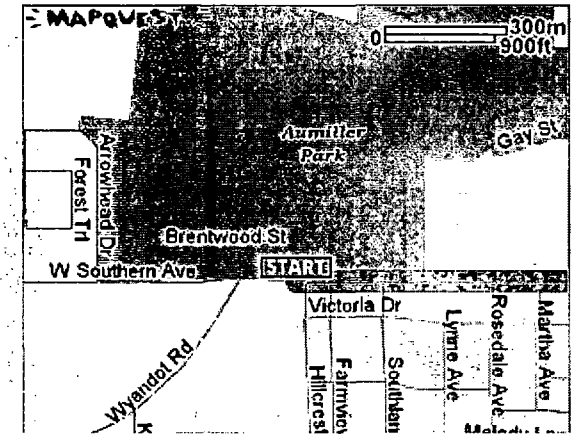
Notes:

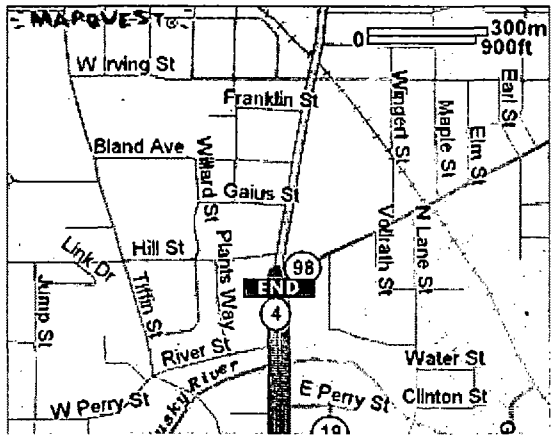
Directions		Distance
Total Est. Time: 5 minutes	**Total Est. Distance:** 2.08 miles	
START	**1:** Start out going EAST on W SOUTHERN AVE toward HILLCREST DR.	0.8 miles
	2: Turn LEFT onto OH-4 / MARION ST. Continue to follow OH-4.	1.2 miles
END	**3:** End at **629 N Sandusky Ave** Bucyrus, OH 44820-1821, US	
Total Est. Time: 5 minutes	**Total Est. Distance:** 2.08 miles	



Start:
1500 W Southern Ave
Bucyrus, OH 44820-3065, US

End:
629 N Sandusky Ave
Bucyrus, OH 44820-1821, US





Confirmation Report – Memory Send

Date & Time: Jul-05-2006 09:23am
Tel line :
Machine ID :

Job number	:	739
Date & Time	:	Jul-05 09:22am
To	:	916146443146
Number of pages	:	002
Start time	:	Jul-05 09:22am
End time	:	Jul-05 09:23am
Pages sent	:	002
Status	:	OK

Job number : 739 *** SEND SUCCESSFUL ***

United States Environmental Protection Agency
Region V
77 West Jackson Boulevard
Chicago, Illinois 60604

EPA

Superfund Division

Facsimile Cover Sheet
Telephone Number
312-886-4071

To: Diane Cvostom Jessica Page
Office phone: Machine No: (614) ~~836~~ 8795
644-3146

From: Laura Ripley
Office phone: (312) 886-6040 Mail code: SR-6J

Date: 7/5/06 Number of pages, including cover: 2

Message:

Signature: